prietary preparations have often been disappointing. This, according to Heubner, is due to the fact that these are all the higher salts of iron, and the chlorotic subject is incapable of reducing the iron to a form suitable for absorption.

The Effects of Subdural Injections of Leukocytes on the Development and Course of Experimental Tuberculous Meningitis.—MANWARING (*Jour. Exper. Med.*, 1912, xv, 1) says that cerebrospinal membranes differ from the true serous membranes in that they are almost impervious to blood proteids and normally receive little or no protective substance from this source, and few, if any, leukocytes. Therefore, it becomes necessary to treat pathological processes existing within these membranes by direct inoculation of remedial agents subdurally or into the spinal canal. The author relates his method for producing expermental tuberculous meningitis in dogs and gives a brief summary of the results of subdural inoculations of tubercle bacilli of varying virulence. The leukocytes used in treating the infected animals were obtained by the injection of turpentine into the pleural cavity of dogs, as perfected by Opie in his study of the treatment of experimental tuberculous pleurisy. Manwaring found in his experiments that subdural inoculations of tubercle bacilli of established virulence for guinea-pigs and rabbits produces in the dog a tuberculous meningitis followed by paralysis and death. When suspensions of canine leukocytes are injected subdurally, following such inoculations there occurs uniformly a delay in the development of the paralysis and a prolongation of the life of the treated animal. In dogs inoculated with small doses of tubercle bacilli of low virulence, the development of paralysis has been prevented by this means for periods of seven months (up to the present date), while the untreated animals injected with the same cultures have all developed paralytic symptoms within a period of about four weeks.

Chemotherapeutic Experiments on Animals Suffering from Malignant Tumors.—A. WASSERMANN, HANSEMANN, KEYSER, and M. WASSERMANN (*Berl. klin. Woch.*, 1912, xlix, 4) relate their experiments in an endeavor to find a chemical substance capable of exerting a specific destructive action upon the cells of malignant tumors occurring in mice either spontaneously or as a result of inoculation. They found in experiments in vitro that selenium and tellurium salts were taken up selectively by carcinoma cells. They also found that when salts of selenium and tellurium were injected locally into the tumors of mice affected with carcinoma these tumors softened and liquefied. However, it is not possible to inject all malignant tumors locally, and any attempt to cure a malignant tumor must take in consideration the possibility of reaching all the tumor cells that possibly may be distributed by metastases widely throughout the body. They next attempted to find some chemical preparation derived from these metals that could be injected into the blood, and that would distribute itself rapidly throughout the body and at the same time be diffusible. More than 200 chemical combinations were tried before Wassermann and his co-workers obtained a preparation consisting of a compound of eosin and selenium. This chemical combination is unstable, and the exact nature of it is not given. This substance is a red powder very easily soluble in water. After injections of this solution into the caudal vein of mice there occurs almost immediately a diffuse reddening of the entire animal that usually disappears within twelve hours. The injections were given daily and after the third injection a distinct softening of the tumor was evident on palpation. After the fourth injection this softening was more evident and the formerly solid tumor now appeared to be a fluctuating cyst. The injections were continued, and usually in ten days a complete disappearance of the tumor was noted. The injections, however, did not always lead to this favorable result, as many of the animals died after the first, second, or third injection. This result may have been due to improperly prepared preparations. Mice with large tumors frequently become severely poisoned when liquefaction and softening of the tumor occurred rapidly. The authors are of the opinion that these toxic symptoms are due to the absorption of the destroyed tumor. The animals in whom the tumors healed have remained without recurrence for months. They conclude from these experiments that it is possible to cure malignant tumors in mice by this means provided the tumors are not too large in proportion to the body weight of the animal. They wish to warn that there is no evidence that eosin-selenium will act similarly with human cancer. However, their experiments do point out a line of investigation that may be extended and lead to a progress in human therapy.

Hexamethylenamin in the Treatment of Bronchitis.—VANDERHOOF (*Jour. Amer. Med. Assoc.*, 1912, lviii, 331) recommends hexamethylenamin as a remedy of great value in cases of acute colds and in patients suffering from acute and chronic bronchitis. The drug should be given in large doses accompanied by the copious drinking of water. In the ordinary cold, treatment with hexamethylenamin shortens the stage of coryza and greatly modifies or entirely prevents the succeeding bronchitis. He also believes that it acts as a prophylactic against ensuing infection of the accessory nasal sinuses. Vanderhoof says that it is our best remedy in acute bronchitis. Certain cases of chronic bronchitis respond to treatment by hexamethylenamin with a gratifying alacrity, while others do not. In the latter instance it is presumed that structural changes have occurred in the walls of the bronchi, associated with thickening and calcification of the cartilages, fibrous membrane, and muscular coats so as to preclude the hope of successful treatment by any remedy.

Salvarsan in Syphilis of the Nervous System.—SACHS and STRAUSS (*Med. Record*, 1912, lxxxi, 211) have used salvarsan in 80 cases of syphilis of the nervous system, and conclude that salvarsan has no curative effect in tabes and general paresis. Salvarsan seems to influence favorably some of the symptoms particularly the vesical and sexual functions, and under its use some of the cases remained stationary. None of the patients treated with salvarsan exhibited any unfavorable symptoms attributable to the drug itself. They believe that in these two diseases it accomplishes as much as, but not any more than was achieved in former years by the use of mercurials. In brain and